MUNICIPAL GAS AND ELECTRIC PLANTS IN MASSACHUSETTS.

ONE of the first municipal electric street-lighting plants in the United States was built by the town of Danvers, Massachusetts, in the year 1888. This plant quickly attracted the attention of other municipalities, and also of the private corporations that were engaged in similar work, especially as Danvers petitioned the legislature, in 1889, for authority to supply private consumers from its plant. In the session of 1890 dozens of petitions with thousands of signers, coming from the cities of Boston, Worcester, Fall River, Lowell, Lawrence and New Bedford, as well as from many smaller places, were presented to the legislature, asking that cities and towns be permitted to distribute gas and electricity for general use. Judging by results, the influence of the private corporations seems to have been more potent with the legislators than were the wishes of the petitioners, for a bill was reported that has since proved to be very favorable to existing gas and electric interests. This bill[1] became the basis of the Municipal-Lighting Act of 1891.

By this act cities and towns are authorized to purchase or construct gas and electric plants both for street lighting and for the general supply of the service to their inhabitants. When a city or town has, in the manner prescribed in the act, decided to establish a municipal gas plant under it, this city or town is required to buy all existing gas plants engaged in public supply within its limits, if the owners wish to sell. In like manner a city or town that has decided to establish an electric plant must purchase existing electric plants on the demand of their owners. Moreover, in a city or town where the gas and electric plants are under common ownership, the decision to establish a municipal plant for either gas or electrical supply

[1] House Document No. 436 of 1890.

fixes on it the obligation to purchase all existing plants of both kinds, at the will of their owners. The price of each plant thus required to be purchased is determined, under the act, by one or more commissioners appointed for the special case by the Supreme Judicial Court, and their decision is subject to confirmation by this tribunal. That a town or city may not escape the obligation imposed by the act or force the owner of a gas or electric plant to sell at a low figure, it is provided that no rights granted to the owners of such plants for the use of the public streets shall be revoked while the question of municipal ownership is pending. In case of a town the obligation to purchase existing gas or electric plants within its limits is created when a vote to establish such a plant under the act has been passed by two-thirds of the voters, at each of two town meetings, held not less than two or more than thirteen months apart. In a city the obligation can only be fixed after a vote that it is expedient to establish a gas or electric plant has been passed by a two-thirds majority of the city council and approved by the mayor in each of two consecutive municipal years, and has subsequently been ratified at an annual or special municipal election.

In order to understand the full force of this legislation, in so far as it relates to the compulsory purchase of existing gas and electric plants, it is necessary to note that the cities and nearly all of the largest towns of the state were supplied with such plants under private ownership at the time of the passage of the bill. It thus became necessary to buy out very large private interests before municipal plants could be established in the localities where they were most desirable. But even this heavy obligation might not have operated as a very serious check on the establishment of municipal plants, had not the operation of the act shown that it required a much greater outlay to pay for existing plants than would be necessary to install new plants of equal capacity. As the law now stands, a city or town that wishes merely to install a plant for its electric street lamps, must purchase all the electric plants within its limits devoted to commercial lighting. Moreover, if the gas

and electric systems happen to be under a single ownership in any place, all the gas and electric plants within its limits must be purchased before it may supply its own electric street lamps. The Act of 1891 and the subsequent legislation on the same subject, while conferring on cities and towns the right to establish municipal gas and electric plants, have thus operated as a restriction on municipal ownership as it might have developed under more favorable legislation. All of the large cities of the state, most of which petitioned through some of their inhabitants for authority to distribute gas and electricity for general use, are still without municipal plants in these lines. Even the great majority of the smaller places continue to be supplied with gas and electricity from private systems. The facts which follow seem to show that the relatively slight development in municipal systems has been due to the fear on the part of cities and towns of the enforced purchase of existing plants at excessive prices.

Though private gas or electric corporations have the power to force the purchase of their plants, when the necessary steps have been taken for municipal ownership, the cities or towns cannot force the private corporations to sell. On the other hand such corporations are free to continue the operation of their plants, and no rights granted in the streets can be revoked by the cities or towns. Strange to say, none of the private corporations have chosen to retain their generating plants in any of the eight cities and towns where these plants were located when municipal ownership was decided on. Even in the two instances where private corporations had only distributing apparatus in towns that decided on municipal plants of the same sort, the corporations elected to sell. Two towns have each bought a distributing plant formerly owned by a private corporation. Seven cities and towns have each bought both generating and distributing plants. One town, North Attleboro, refused to purchase a private generating plant within its limits, when municipal ownership was decided on, and the case was not taken to court, but the plant was moved out of the town. In three instances, those of Middleboro,

Hingham and Hull, in 1893 and 1894, the towns reached amicable agreements with the owners of plants. In the other six cases, cities and towns have been forced to purchase existing plants at the suits of their owners. Even the three towns that reached amicable agreements for the purchase of plants were obliged to give the full prices demanded, or run the risk of suits at law. Since 1894 no mutual agreements between the owners of plants and the towns where they are located have been reached, the private corporations evidently finding it more to their advantage to bring suit. Three private plants were purchased by towns in 1894, and only five during the entire period since that year, when the practical working of the municipal-ownership law became evident.

The chief features of the movement toward municipal purchase are embodied in the following table.

YEAR OF PURCHASE.	NAME OF TOWN OR CITY.	GENERATING OR DISTRIBUTING PLANT.	BY AGREEMENT OR AWARD.
1893	Middleboro	Both	Agreement
1894	Hingham	Distributing	Agreement
1894	Hull	Both	Agreement
1894	Wakefield	Both	Award
1895	Chicopee	Both	Award
1897	Taunton	Both	Award
1897	Hudson	Both	Award
1898	Belmont	Distributing	Award
1899	Westfield	Both	Award

In order to bring out the relations between the prices paid by cities and towns for gas and electric plants, and the values and earning capacities of these plants, we will compare the amount of stock, bonds and notes outstanding, in the case of each of the corporations that owned the plants, with its net earnings during its last fiscal year of operation. By net earnings is here meant the difference between income and operating expenses, no allowance being made for interest, depreciation or dividends. In the cases of Hingham and Belmont no attempt is made to determine either the investment in or the earning capacity of the distributing systems purchased, because these

systems form merely parts of much larger plants in other cities or towns. As will be shown, not one of the plants which cities and towns have been forced to purchase was earning enough above operating expenses to pay depreciation and dividends on the price paid for it.

It is probably impossible to determine with absolute accuracy from the public records what the investments in the several plants that have been sold to cities and towns really were. Since the year 1886 the law has required that the bonds as well as the stock of gas companies be issued only for cash or its equivalent. A like requirement extends to the stock but not to the bonds of electric companies. Since 1894 the stock and bonds of gas and electric companies are required by law to be issued only on approval of the state board of gas and electric light commissioners. Before that year it is well known that the stock and bonds of such companies were often issued to amounts far in excess of the value of the property. Much the greater part of the stocks and bonds noted here were issued before the law, requiring the approval of the commissioners, went into effect. The notes payable may have been issued to pay for construction or to make up losses in operation, and were probably applied to both purposes. It is practically certain that the sum of capital stock, bonds and notes payable issued by the companies here considered was materially greater than the cash and property put into their plants, at a fair valuation. But in order to put the investments of the corporations at the highest figures possible, the sums of the stocks, bonds and notes payable are taken for comparison with the amounts paid by cities and towns for the plants. The situation is exhibited in the tables on the following page.

A number of interesting features of the situation are revealed or suggested by these tables. In the first place the Middleboro corporation which was bought out by the town was clearly insolvent. The price which it accepted for its plant, by an agreement reached before the town had by its votes incurred the legal liability to purchase, was less than the amount of the outstanding bonds of the corporation, and in operating the

plant there was a deficit of 2.2 per cent on even the low price paid by the town. In Wakefield, also, the company seems to have unloaded an unpromising property on the municipality. The price in this case was fixed by commissioners, and a hint as to the way in which the award was regarded by the town and

CITY OR TOWN.	STOCKS.	BONDS.	NOTES.	TOTAL.
Middleboro . .	$80,000	$80,000	—	$160,000.00
Hingham . .	—	—	—	—
Hull	60,000	60,000	$5,600.92	125,600.92
Wakefield . .	95,300	70,000	79,250.00	244,550.00
Chicopee . .	10,000	—	6,447.49	16,447.49
Taunton . . .	50,000	—	30,000.00	80,000.00
Hudson . . .	15,000	—	2,500.00	17,500.00
Belmont . . .	—	—	—	—
Westfield . .	75,000	—	9,525.00	84,525.00

CITY OR TOWN.	AMOUNT PAID FOR PLANT.	PERCENTAGE OF STOCKS, BONDS AND NOTES PAID FOR PLANTS.	NET EARNINGS OF COMPANY.	PERCENTAGE OF PRICES PAID FOR PLANTS EARNED DURING YEAR BEFORE SALE.
Middleboro .	$63,000.00	39.3	$1,407.31 [2]	−2.2
Hingham [1] .	12,000.00	—	—	—
Hull . . .	91,202.00	74.0	3,403.48	3.7
Wakefield .	144,680.00	59.2	1,729.47	1.2
Chicopee . .	27,000.00	164.1	643.83	2.4
Taunton . .	125,000.00	156.2	5,429.74	4.3
Hudson . .	15,300.00	87.4	1,091.44	7.1
Belmont [1] .	9,375.00	—	—	—
Westfield .	147,500.00	174.5	14,208.31 [3]	9.6

the company respectively is given by the fact that the town appealed from the commissioners' decision, while the company fought the appeal and forced the sale. In Chicopee the company demanded $39,930 for its property but the commissioners awarded only $27,000, which was, however, very largely in excess of the outstanding liabilities. But the figures in this

[1] Only a small part of the company's plant purchased.
[2] Loss in operation.
[3] Net earnings during eleven months.

case are qualified by the fact that only part of the company's property was covered by the award, because the electric station and the foundations of the steam plant were on land that did not belong to the company and of which it had no written lease. The somewhat attractive showing made by the figures for Hudson, where the earnings for the last complete fiscal year were 7.1 per cent on the price paid by the town, loses something of its glamour in view of the sequel; for the plant purchased was found unsuitable for use by the town and a new plant was at once built at a cost of $17,000. Of all the cases scheduled in the tables that of Westfield alone appears really favorable to the municipality concerned; but even here the earnings of 9.6 per cent are an inadequate margin from which to meet interest, depreciation and dividends.

The last decade of the nineteenth century opened in Massachusetts with a general desire on the part of the people in both cities and towns for municipal ownership of gas and electric plants, as was shown by the numerous petitions to the legislature, mentioned early in this article. This desire on the part of towns and cities was met by the efforts of private corporations to secure legislation that should ensure their hold on these lines of work. That these efforts succeeded in the main, the facts here presented clearly indicate. Between the passage of the Municipal-Lighting Act of 1891, and the middle of 1900, thirty-seven cities and towns in Massachusetts passed first votes to establish gas or electric plants under it. Such a vote gives a city or town the right to know the price that the gas or electric company will demand for its plant. Only seventeen of these cities and towns passed the final votes necessary to fix the obligation to purchase existing systems and actually established plants. Including that of Danvers, the total number of municipal gas or electric plants in the state is eighteen. Of this number seven are in towns where there were no plants that the towns might by their action be forced to purchase. On the other hand, of the twenty cities and towns which, after a first vote to accept the act, failed to incur the obligation

to purchase existing systems and to establish plants, all but one contained at the time of such votes private plants of one kind or another that they might become liable to purchase. As cities and towns have authority to require a definite proposition for the sale of private plants, if the company wishes to sell, after the first vote to establish a plant under the act has been passed, but lack such authority prior to this vote, it seems probable that the prices asked served in a number of instances to cool the ardor for municipal ownership.

Of course the prices demanded by private interests for their gas and electric plants are subject to revision by the commissioners and the court, but the prices thus far fixed by such decisions have hardly been such as to invite municipal investments. In 1893 and 1894 two towns, though obliged to purchase existing plants or forego municipal ownership, bargained for plants within their respective limits before the obligation arose to purchase, and paid for these plants 39.3 and 74 per cent respectively of the sum of stock, bonds and notes outstanding against each plant. In later years the corporations have seen their advantage under the present law, and have not been inclined to let go of their properties so easily. The corporations owning each of the other five generating plants, bought by towns and cities, in each case petitioned the court for commissioners to determine the price of the property. The prices awarded were, as appears in the foregoing tables, all relatively higher than those reached earlier by agreement, taking the percentage of the corporate liabilities as the gauge. Moreover, the net earnings of the plants acquired, as shown by the table, varying from -2.2 per cent to 9.6 per cent (the latter for only eleven months) of the prices paid by the municipalities, were obviously insufficient to provide for interest, depreciation and dividends.

It is hard to see how the awards of the commissioners have been based either on the investments in gas and electric plants, or on the earning capacity of such plants. With such examples before them it is little wonder that cities and towns of Massachusetts hesitate to enter on municipal ownership, in

spite of the general desire for it. As long as the existing law can be kept in force by corporate interests, it is safe to say that municipal gas and electric plants will increase slowly in the large towns and cities of the state. With the present attitude of the public mind toward municipal ownership the existing law invites attack. Two bills to modify the Act of 1891 were introduced in the legislature of 1901[1]: one provided that if cities or towns are forced to purchase existing plants, the prices paid shall not exceed the cost of construction of such plants; the other authorized cities and towns to establish plants for purely municipal purposes without the obligation to purchase existing plants. Both of these bills failed of passage. Two bills were also introduced in the legislature of 1902, fixing the price which a city or town may be forced to pay for an existing gas or electric plant at the cost of construction for a new plant, less the depreciation of the existing system; but both these bills were reported on adversely by the committees.

In the near future the friends of municipal ownership hope, at least, to reduce the prices that cities and towns must pay for existing plants to fair valuations of their physical properties.[2]

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[1] House Documents 692 and 1306.

[2] The facts and figures in this paper are mainly derived from the Reports of the Gas and Electric Light Commissioners during the past ten years, and from the Journals of the Massachusetts House and Senate.